

## **COMPLETE LISTING OF CLAIMS**

This listing of claims will replace all prior versions, and listings, of claims in the application:

### **Listing of Claims:**

Claims 1-33 (canceled)

34. (New) A lighting installation for varying the light intensity of at least one light source through a power supply line comprising:

(a) a control unit comprising a data receiver or device for receiving a command along the power supply line and a microprocessor for creating a brightness regulation signal according to the command;

(b) a controller having a transmission device for transmitting the command to the control unit;

(c) a power supply circuit having a light intensity regulator for varying the light intensity of at least one light source with the brightness regulation signal; and

(d) a galvanic isolation system connecting the microprocessor and the power supply circuit.

35. (New) The lighting installation of claim 34, wherein:

(a) the microprocessor inputs an input current signal proportional to a power circuit current drawn by the power supply circuit;

(b) the microprocessor inputs an input voltage signal proportional to a power circuit voltage drawn by the power supply circuit whereby the microprocessor

determines a result according to input voltage signal and the input current signal;  
and

(c) the control unit transmits the result to the controller thereby detecting the correct operation of at least one light source.

36. (New) The lighting installation of claim 34, further comprising:

(a) the power supply circuit having data transmission lines for transmitting an input current signal and a input voltage current signal;

(b) the microprocessor inputting the input voltage signal and the input current signal whereby the microprocessor determines a result according to input voltage signal and the input current signal; and

(c) the control unit transmitting the result to the controller thereby detecting the correct operation of at least one light source.

37. (New) A lighting installation for varying the light intensity of at least one light source through a power supply line comprising:

(a) a control unit comprising a data receiver or device for receiving data transmitted along the power supply line, a microprocessor, a light regulation circuit for generating a brightness regulation signal, and a galvanic isolation system connecting the microprocessor and the light regulation circuit thereby galvanically isolating the microprocessor and the light regulation circuit;

(b) a controller having a transmission device for transmitting a command to the control unit;

(c) the microprocessor converting the command into an output voltage whereby the light regulation circuit generates the brightness regulation signal; and

(d) a power supply circuit having a light intensity regulator for varying the light intensity of at least one light source according to the brightness regulation signal, the power supply circuit further comprising regulation terminals for receiving the brightness regulation signal from the control unit.

38. (New) The lighting installation of claim 37, wherein the galvanic isolation system comprises an optical coupler.

39. (New) The lighting installation of claim 38, wherein the transmission device comprises a modem for transmitting and receiving data by carrier frequency transmission along the power supply line.

40. (New) The lighting installation of claim 39, further comprising an on-off switch connecting to each light source.

41. (New) The lighting installation of claim 40, wherein the power supply circuit further comprises electrical supply terminals connected to the power supply line, the on-off switch being connected between at least one of the electrical supply terminals and the power supply line.

42. (New) The lighting installation of claim 40, wherein the control unit further comprises an on-off switch.

43. (New) The lighting installation of claim 42, wherein the on-off switch comprises a transistor and a relay whereby the conducting state of the transistor causes the switching of the relay.

44.. (New) The lighting installation of claim 43, wherein the controller transmits an on-off command to the control unit for independent on-off switching of each light source.

45. (New) The lighting installation of claim 43, wherein the control unit further comprises:

- (a) power supply terminals for connection to the power supply lines;
- (b) power relay terminals connecting to the power supply circuit whereby the power supply circuit connects to the power supply through the control unit; and
- (c) the controller transmits an on-off command to the control unit for independent on-off switching of each light source.

46. (New) The lighting installation of claim 45, wherein at least one of the electrical power supply terminals of the power supply circuit is connected to the on-off switch of the control unit.

47. (New) The lighting installation of claim 46, wherein the on-off switch is controlled by the microprocessor according to the on-off command received by the data receiver or device.

48. (New) The lighting installation of claim 47, further comprising means for detecting the correct operation of at least one light source.

49. (New) The lighting installation of claim 48, wherein the means for detecting the correct operation of at least one light source comprises:

- (a) the microprocessor inputting an input current signal proportional to a power circuit current drawn by the power supply circuit;

(b) the microprocessor inputting an input voltage signal proportional to a power circuit voltage drawn by the power supply circuit whereby the microprocessor determines a result according to input voltage signal and the input current signal; and

(c) the control unit transmitting the result to the controller.

50. (New) The lighting installation of claim 48, wherein the means for detecting the correct operation of at least one light source comprises:

(a) the power supply circuit having data transmission lines for transmitting an input current signal and input voltage signal;

(b) the microprocessor inputting the input voltage signal and the input current signal whereby the microprocessor determines a result according to input voltage signal and the input current signal; and

(c) the control unit transmitting the result to the controller.

51. (New) The lighting installation of claim 50, wherein the controller further comprises a user interface for modifying at least one control variable.

52. (New) A lighting installation for varying the light intensity of at least one light source through a power supply line comprising:

(a) a controller transmitting a time signal through the power supply line;

(b) a control unit having a microprocessor and a memory unit; and

(c) the memory unit having commands for modifying at least one control variable of at least one light source arranged in a time table whereby the control unit receives the time signal and the microprocessor compares the time signal

received with the time table thereby selecting an appropriate command from the timetable which modifies at least one control variable of at least one light source.

53. (New) The lighting installation of claim 52 further comprising:

(a) a light regulation circuit for producing a brightness regulation signal when the control variable is luminous flux, the light regulation circuit is galvanically connected to the microprocessor; and

(b) a power supply circuit connecting to at least one light source and receiving the brightness regulation signal thereby regulating the light emission of at least one light source.

54. (New) The lighting installation of claim 53 further comprising an optical coupler galvanically connecting the microprocessor and the light regulation circuit.

55. (New) The lighting installation of claim 54 further comprising an on-off switch for independently switching at least one light source when the control variable is on-off switching.

56. (New) The lighting installation of claim 55, wherein the on-off switch is controlled by the microprocessor according to the command when the control variable is on-off switching, the command being received from the memory unit.

57. (New) A lighting installation for varying the light intensity of a plurality of light sources through a power supply line comprising:

(a) a controller for transmitting a time signal through the power supply line;

(b) control units having a microprocessor and a memory unit, the number of control units equaling the number of light sources and each control unit connecting to one light source; and

(c) the control units modifying at least one control variable for the connected light source by receiving the time signal whereby the microprocessor compares the time signal with the timetable thereby selecting the appropriate command from the timetable.

58. (New) The lighting installation of claim 57 further comprising:

(a) light regulation circuits, each light regulation circuit corresponding to one control unit, for producing a brightness regulation signal when the control variable is luminous flux, each light regulation circuit is galvanically connected to the microprocessor within the respective control unit; and

(b) power supply circuits connecting each control unit to the connected light source and receiving the brightness regulation signal thereby regulating the light emission of the connected light source.

59. (New) The lighting installation of claim 58 further comprising optical couplers, each optical coupler corresponding to one control unit for galvanically connecting the microprocessor and the light regulation circuit.

60. (New) The lighting installation of claim 59 further comprising on-off switches, each on-off switch associated with one control unit for independently switching the connected light source when the control variable is on-off switching.

61. (New) The lighting installation of claim 60, wherein the on-off switches are controlled by the microprocessor within the respective control unit according to the command when the control variable is on-off switching, the command being received from the respective memory unit.

62. (New) A lighting installation for varying the light intensity of a plurality of light sources through a power supply line comprising:

(a) a plurality of control units, each control unit having a data receiver or device for receiving data transmitted along the power supply line, a microprocessor, and an on-off switch;

(b) power supply circuits connecting to one control unit at first terminals and connected light sources at a second pair of terminal, the connected light sources being less than all of the plurality of light sources;

(c) a controller having a transmission device for transmitting an on-off command to each control unit whereby each control unit sends the on-off command to the microprocessor within the control unit; and

(d) the microprocessor within each control unit independently switching the on-off switch within the control unit according to the on-off command thereby on-off switching the connected light sources.

63. (New) A control unit for regulating the light emission of a lighting device with a comprising through a power supply line:

(a) power terminals for connection to the power supply line;



(b) a data receiver or device for receiving a receiver command transmitted along the power supply lines for controlling a control variable of the lighting device;

(c) power relay terminals for a light emission regulation signal;

(d) a microprocessor connected to the data receiver or device; and

(e) a light regulation circuit for generating the light emission regulation signal at the power relay terminals, the light regulation circuit galvanically connecting to the microprocessor.

64. (New) The control unit of claim 63 further comprising power relay terminals for transferring a supply voltage to the lighting device.

65. (New) The control unit of claim 64 further comprising an on-off switch for independently switching the lighting device on and off.

66. (New) The control unit of claim 65 wherein the on-off switch is controlled according to the receiver command received by the transmitter when the control variable is on-off switching.

67. (New) The control unit of claim 65 further comprising:

(a) the receiver command being a time signal;

(b) a memory unit; and

(c) the memory unit having stored commands for modifying at least one control variable of the lighting device arranged in a timetable whereby the control unit receives the receiver command and the microprocessor compares the receiver command received with the timetable thereby selecting an appropriate command

from the timetable thereby modifying at least one control variable of at least one light source.

68. (New) The control unit of claim 65 wherein the data receiver or device is a modem for transmitting and receiving the receiver command by carrier frequency transmission along the power supply line.

69. (New) A controller for a power supply line connected to a lighting installation having lighting devices and at least one device for regulating the light emission for the lighting devices, comprising:

- (a) data transmission terminals for connection to the power supply line;
- (b) a transmission device for transmitting a time signal for controlling a variable of at least one lighting device along the power supply line;
- (c) a microprocessor for controlling the transmission of the time signal by the transmission device along the power supply line; and
- (d) the microprocessor is programmed to send a time signal for independently controlling a variable of at least one light source.